West Virginia Department of Environmental Protection

Jim Justice Governor

Division of Air Quality

Austin Caperton Cabinet Secretary

Permit to Modify



R13-3090A

This permit is issued in accordance with the West Virginia Air Pollution Control Act (West Virginia Code §§22-5-1 et seq.) and 45 C.S.R. 13 – Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permits, General Permits and Procedures for Evaluation. The permittee identified at the above-referenced facility is authorized to construct the stationary sources of air pollutants identified herein in accordance with all terms and conditions of this permit.

Issued to:

Williams Ohio Valley Midstream LLC Bardall Compressor Station 051-00133

William F. Durham Director

Issued: Draft

This permitting action would supersede and replace R13-3090.

Facility Location: Moundsville, Marshall County, West Virginia

Mailing Address: 100 Teletech Drive, Suite 2

Moundsville, WV 26041

Facility Description: Natural Gas Compressor Station

NAICS Codes: 213112

UTM Coordinates: 527.664 km Easting • 4,420.070 km Northing • Zone 17

Permit Type: Modification

Description of Change: Williams is modifying emissions for the triethylene glycol (TEG) dehydration unit &

associated reboiler, produced liquid tank, and tank truck loading.

Any person whose interest may be affected, including, but not necessarily limited to, the applicant and any person who participated in the public comment process, by a permit issued, modified or denied by the Secretary may appeal such action of the Secretary to the Air Quality Board pursuant to article one [§§22B-1-1 et seq.], Chapter 22B of the Code of West Virginia. West Virginia Code §§22-5-14.

The source is not subject to 45CSR30.

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1.0. Emission Units

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control/ Reduction Device(s)
CE-01	1E	Caterpillar G398NAEngine	2010	500 hp	NSCR
RPC	2E	Reciprocating Rod Packing and Engine Crankcase	2010	500 hp	None
SSM	3E	Start/Stop/Maintenance	2013	500 hp	None
DFT-01	4E	TEG Dehydrator Flash Tank	2013	5.0 mmscfd	RBV-01
DSV-01	5E	TEG Dehydrator Still Vent	2013	5.0 mmscfd	None
RBV-01	6E	TEG Dehydrator Reboiler	2013	0.20 MMBTU/hr	None
T-01	7E	Produced Water Tank	2013	210 bbl	None
TLO	8E	Truck Loadout	2013	106,000 gallons/year	None

1.1. Control Devices

Emission Unit	Pollutant	Control Device	Control Efficiency
CE-01	Nitrogen Oxides	NSCR	84 %
	Carbon Monoxide		72 %
DFT-01	Volatile Organic Compounds	Flash Tank Vapors being	50%
	Hazardous Air Pollutants	used as fuel in reboiler.	50%

2.0. General Conditions

2.1. Definitions

- 2.1.1. All references to the "West Virginia Air Pollution Control Act" or the "Air Pollution Control Act" mean those provisions contained in W.Va. Code §§ 22-5-1 to 22-5-18.
- 2.1.2. The "Clean Air Act" means those provisions contained in 42 U.S.C. §§ 7401 to 7671q, and regulations promulgated thereunder.
- 2.1.3. "Secretary" means the Secretary of the Department of Environmental Protection or such other person to whom the Secretary has delegated authority or duties pursuant to W.Va. Code §§ 22-1-6 or 22-1-8 (45CSR§30-2.12.). The Director of the Division of Air Quality is the Secretary's designated representative for the purposes of this permit.

2.2. Acronyms

CAAA	Clean Air Act Amendments	NOx	Nitrogen Oxides
CBI	Confidential Business	NSPS	New Source Performance
	Information		Standards
CEM	Continuous Emission Monitor	PM	Particulate Matter
CES	Certified Emission Statement	PM _{2.5}	Particulate Matter less than 2.5
C.F.R. or CFR	Code of Federal Regulations		μm in diameter
CO	Carbon Monoxide	PM ₁₀	Particulate Matter less than
C.S.R. or CSR	Codes of State Rules		10μm in diameter
DAQ	Division of Air Quality	Ppb	Pounds per Batch
DEP	Department of Environmental	Pph	Pounds per Hour
	Protection	Ppm	Parts per Million
dscm	Dry Standard Cubic Meter	Ppmy or	Parts per Million by Volume
FOIA	Freedom of Information Act	ppmv	
HAP	Hazardous Air Pollutant	PSD	Prevention of Significant
HON	Hazardous Organic NESHAP		Deterioration
HP	Horsepower	Psi	Pounds per Square Inch
lbs/hr	Pounds per Hour	SIC	Standard Industrial
LDAR	Leak Detection and Repair		Classification
M	Thousand	SIP	State Implementation Plan
MACT	Maximum Achievable	SO_2	Sulfur Dioxide
	Control Technology	TAP	Toxic Air Pollutant
MDHI	Maximum Design Heat Input	TPY	Tons per Year
MM	Million	TRS	Total Reduced Sulfur
MMBtu/hr or	Million British Thermal Units	TSP	Total Suspended Particulate
mmbtu/hr	per Hour	USEPA	United States Environmental
MMCF/hr or	Million Cubic Feet per Hour		Protection Agency
mmcf/hr		UTM	Universal Transverse Mercator
NA	Not Applicable	VEE	Visual Emissions Evaluation
NAAQS	National Ambient Air Quality	VOC	Volatile Organic Compounds
-	Standards	VOL	Volatile Organic Liquids
NESHAPS	National Emissions Standards for Hazardous Air Pollutants		

2.3. Authority

This permit is issued in accordance with West Virginia air pollution control law W.Va. Code §§ 22-5-1. et seq. and the following Legislative Rules promulgated thereunder:

2.3.1. 45CSR13 – Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permits, General Permits and Procedures for Evaluation;

2.4. Term and Renewal

2.4.1. This permit supersedes and replaces previously issued General Permit Registration G35-A042. This Permit shall remain valid, continuous and in effect unless it is revised, suspended, revoked or otherwise changed under an applicable provision of 45CSR13 or any other applicable legislative rule;

2.5. Duty to Comply

- 2.5.1. The permitted facility shall be constructed and operated in accordance with the plans and specifications filed in Permit Applications R13-3090 and any modifications, administrative updates, or amendments thereto. The Secretary may suspend or revoke a permit if the plans and specifications upon which the approval was based are not adhered to;
 - [45CSR§§13-5.11 and -10.3.]
- 2.5.2. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the West Virginia Code and the Clean Air Act and is grounds for enforcement action by the Secretary or USEPA;
- 2.5.3. Violations of any of the conditions contained in this permit, or incorporated herein by reference, may subject the permittee to civil and/or criminal penalties for each violation and further action or remedies as provided by West Virginia Code 22-5-6 and 22-5-7;
- 2.5.4. Approval of this permit does not relieve the permittee herein of the responsibility to apply for and obtain all other permits, licenses, and/or approvals from other agencies; i.e., local, state, and federal, which may have jurisdiction over the construction and/or operation of the source(s) and/or facility herein permitted.

2.6. Duty to Provide Information

The permittee shall furnish to the Secretary within a reasonable time any information the Secretary may request in writing to determine whether cause exists for administratively updating, modifying, revoking, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Secretary copies of records to be kept by the permittee. For information claimed to be confidential, the permittee shall furnish such records to the Secretary along with a claim of confidentiality in accordance with 45CSR31. If confidential information is to be sent to USEPA, the permittee shall directly provide such information to USEPA along with a claim of confidentiality in accordance with 40 C.F.R. Part 2.

2.7. Duty to Supplement and Correct Information

Upon becoming aware of a failure to submit any relevant facts or a submittal of incorrect information in any permit application, the permittee shall promptly submit to the Secretary such supplemental facts or corrected information.

2.8. Administrative Update

The permittee may request an administrative update to this permit as defined in and according to the procedures specified in 45CSR13.

[45CSR§13-4.]

2.9. Permit Modification

The permittee may request a minor modification to this permit as defined in and according to the procedures specified in 45CSR13.

[45CSR§13-5.4.]

2.10 Major Permit Modification

The permittee may request a major modification as defined in and according to the procedures specified in 45CSR14 or 45CSR19, as appropriate.

[45CSR§13-5.1]

2.11. Inspection and Entry

The permittee shall allow any authorized representative of the Secretary, upon the presentation of credentials and other documents as may be required by law, to perform the following:

- a. At all reasonable times (including all times in which the facility is in operation) enter upon the permittee's premises where a source is located or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
- b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- Inspect at reasonable times (including all times in which the facility is in operation) any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit;
- d. Sample or monitor at reasonable times substances or parameters to determine compliance with the permit or applicable requirements or ascertain the amounts and types of air pollutants discharged.

2.12. Emergency

2.12.1. An "emergency" means any situation arising from sudden and reasonable unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by

improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

- 2.12.2. Effect of any emergency. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the conditions of Section 2.12.3 are met.
- 2.12.3. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - a. An emergency occurred and that the permittee can identify the cause(s) of the emergency;
 - b. The permitted facility was at the time being properly operated;
 - c. During the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit; and
 - d. The permittee submitted notice of the emergency to the Secretary within one (1) working day of the time when emission limitations were exceeded due to the emergency and made a request for variance, and as applicable rules provide. This notice must contain a detailed description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.
- 2.12.4. In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof.
- 2.12.5 The provisions of this section are in addition to any emergency or upset provision contained in any applicable requirement.

2.13. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a permittee in an enforcement action that it should have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. However, nothing in this paragraph shall be construed as precluding consideration of a need to halt or reduce activity as a mitigating factor in determining penalties for noncompliance if the health, safety, or environmental impacts of halting or reducing operations would be more serious than the impacts of continued operations.

2.14. Suspension of Activities

In the event the permittee should deem it necessary to suspend, for a period in excess of sixty (60) consecutive calendar days, the operations authorized by this permit, the permittee shall notify the Secretary, in writing, within two (2) calendar weeks of the passing of the sixtieth (60) day of the suspension period.

2.15. Property Rights

This permit does not convey any property rights of any sort or any exclusive privilege.

2.16. Severability

The provisions of this permit are severable and should any provision(s) be declared by a court of competent jurisdiction to be invalid or unenforceable, all other provisions shall remain in full force and effect.

2.17. Transferability

This permit is transferable in accordance with the requirements outlined in Section 10.1 of 45CSR13. [45CSR§13-10.1.]

2.18. Notification Requirements

The permittee shall notify the Secretary, in writing, no later than thirty (30) calendar days after the actual startup of the operations authorized under this permit.

2.19. Credible Evidence

Nothing in this permit shall alter or affect the ability of any person to establish compliance with, or a violation of, any applicable requirement through the use of credible evidence to the extent authorized by law. Nothing in this permit shall be construed to waive any defense otherwise available to the permittee including, but not limited to, any challenge to the credible evidence rule in the context of any future proceeding.

3.0. Facility-Wide Requirements

3.1. Limitations and Standards

- 3.1.1. Open burning. The open burning of refuse by any person, firm, corporation, association or public agency is prohibited except as noted in 45CSR§6-3.1.
 [45CSR§6-3.1.]
- 3.1.2. **Open burning exemptions.** The exemptions listed in 45CSR§6-3.1 are subject to the following stipulation: Upon notification by the Secretary, no person shall cause, suffer, allow or permit any form of open burning during existing or predicted periods of atmospheric stagnation. Notification shall be made by such means as the Secretary may deem necessary and feasible. **[45CSR§6-3.2.]**
- 3.1.3. **Asbestos.** The permittee is responsible for thoroughly inspecting the facility, or part of the facility, prior to commencement of demolition or renovation for the presence of asbestos and complying with 40 C.F.R. § 61.145, 40 C.F.R. § 61.148, and 40 C.F.R. § 61.150. The permittee, owner, or operator must notify the Secretary at least ten (10) working days prior to the commencement of any asbestos removal on the forms prescribed by the Secretary if the permittee is subject to the notification requirements of 40 C.F.R. § 61.145(b)(3)(i). The USEPA, the Division of Waste Management, and the Bureau for Public Health Environmental Health require a copy of this notice to be sent to them.

 [40CFR§61.145(b) and 45CSR§34]
- 3.1.4. **Odor.** No person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor at any location occupied by the public. [45CSR§4-3.1] [State Enforceable Only]
- 3.1.5. **Permanent shutdown.** A source which has not operated at least 500 hours in one 12-month period within the previous five (5) year time period may be considered permanently shutdown, unless such source can provide to the Secretary, with reasonable specificity, information to the contrary. All permits may be modified or revoked and/or reapplication or application for new permits may be required for any source determined to be permanently shutdown. **[45CSR§13-10.5.]**
- 3.1.6. **Standby plan for reducing emissions.** When requested by the Secretary, the permittee shall prepare standby plans for reducing the emissions of air pollutants in accordance with the objectives set forth in Tables I, II, and III of 45CSR11.

 [45CSR\$11-5.2.]

3.2. Monitoring Requirements

[Reserved]

3.3. Testing Requirements

3.3.1. **Stack testing.** As per provisions set forth in this permit or as otherwise required by the Secretary, in accordance with the West Virginia Code, underlying regulations, permits and orders, the permittee shall conduct test(s) to determine compliance with the emission limitations set forth in this permit and/or established or set forth in underlying documents. The Secretary, or his duly authorized representative, may at his option witness or conduct such test(s). Should the Secretary exercise his option to conduct such test(s), the operator shall provide all necessary sampling

connections and sampling ports to be located in such manner as the Secretary may require, power for test equipment and the required safety equipment, such as scaffolding, railings and ladders, to comply with generally accepted good safety practices. Such tests shall be conducted in accordance with the methods and procedures set forth in this permit or as otherwise approved or specified by the Secretary in accordance with the following:

- a. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with 40 C.F.R. Parts 60, 61, and 63 in accordance with the Secretary's delegated authority and any established equivalency determination methods which are applicable. If a testing method is specified or approved which effectively replaces a test method specified in the permit, the permit may be revised in accordance with 45CSR§13-4. or 45CSR§13-5.4 as applicable.
- b. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with applicable requirements which do not involve federal delegation. In specifying or approving such alternative testing to the test methods, the Secretary, to the extent possible, shall utilize the same equivalency criteria as would be used in approving such changes under Section 3.3.1.a. of this permit. If a testing method is specified or approved which effectively replaces a test method specified in the permit, the permit may be revised in accordance with 45CSR§13-4. or 45CSR§13-5.4 as applicable.
- d. The permittee shall submit a report of the results of the stack test within sixty (60) days of completion of the test. The test report shall provide the information necessary to document the objectives of the test and to determine whether proper procedures were used to accomplish these objectives. The report shall include the following: the certification described in paragraph 3.5.1.; a statement of compliance status, also signed by a responsible official; and, a summary of conditions which form the basis for the compliance status evaluation. The summary of conditions shall include the following:
 - 1. The permit or rule evaluated, with the citation number and language;
 - 2. The result of the test for each permit or rule condition; and,
 - 3. A statement of compliance or noncompliance with each permit or rule condition.

[WV Code § 22-5-4(a)(14-15) and 45CSR13]

3.4. Recordkeeping Requirements

3.4.1. **Retention of records.** The permittee shall maintain records of all information (including monitoring data, support information, reports, and notifications) required by this permit recorded in a form suitable and readily available for expeditious inspection and review. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation. The files shall be maintained for at least five (5) years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. At a minimum, the most recent two (2) years of data shall be maintained on site. The remaining three (3) years of data may be maintained off site, but must remain accessible within a reasonable time. Where appropriate, the permittee may maintain records electronically (on a computer, on computer floppy disks, CDs, DVDs, or magnetic tape disks), on microfilm, or on microfiche.

3.4.2. **Odors.** For the purposes of 45CSR4, the permittee shall maintain a record of all odor complaints received, any investigation performed in response to such a complaint, and any responsive action(s) taken.

[45CSR§4. State Enforceable Only.]

3.5. Reporting Requirements

- 3.5.1. **Responsible official.** Any application form, report, or compliance certification required by this permit to be submitted to the DAQ and/or USEPA shall contain a certification by the responsible official that states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
- 3.5.2. **Confidential information.** A permittee may request confidential treatment for the submission of reporting required by this permit pursuant to the limitations and procedures of W.Va. Code § 22-5-10 and 45CSR31.
- 3.5.3. **Correspondence.** All notices, requests, demands, submissions and other communications required or permitted to be made to the Secretary of DEP and/or USEPA shall be made in writing and shall be deemed to have been duly given when delivered by hand, or mailed first class with postage prepaid to the address(es) set forth below or to such other person or address as the Secretary of the Department of Environmental Protection may designate:

If to the DAO:

Director WVDEP Division of Air Quality 601 57th Street

Charleston, WV 25304-2345

If to the US EPA:

Associate Director
Office of Air Enforcement and Compliance
Assistance
(3AP20)
U.S. Environmental Protection Agency
Region III
1650 Arch Street

Philadelphia, PA 19103-2029

3.5.4. **Operating Fee**

- 3.5.4.1. In accordance with 45CSR22 Air Quality Management Fee Program, the permittee shall not operate nor cause to operate the permitted facility or other associated facilities on the same or contiguous sites comprising the plant without first obtaining and having in current effect a Certificate to Operate (CTO). Such Certificate to Operate (CTO) shall be renewed annually, shall be maintained on the premises for which the certificate has been issued, and shall be made immediately available for inspection by the Secretary or his/her duly authorized representative.
- 3.5.4.2. In accordance with 45CSR22 Air Quality Management Fee Program, enclosed with this permit is an Application for a Certificate to Operate (CTO). The CTO will cover the time period beginning with the date of initial startup through the following June 30. Said application and the appropriate fee shall be submitted to this office prior to the date of initial startup. For any startup date other than July 1, the permittee shall pay a fee or prorated fee in accordance with Section 4.5 of 45CSR22. A copy of this schedule may be found on the reverse side of the CTO application.

3.5.5. **Emission inventory.** At such time(s) as the Secretary may designate, the permittee herein shall prepare and submit an emission inventory for the previous year, addressing the emissions from the facility and/or process(es) authorized herein, in accordance with the emission inventory submittal requirements of the Division of Air Quality. After the initial submittal, the Secretary may, based upon the type and quantity of the pollutants emitted, establish a frequency other than on an annual basis.



4.0. Source-Specific Requirements

4.1. Limitations and Standards

- 4.1.1. **Record of Monitoring.** The permittee shall keep records of monitoring information that include the following:
 - a. The date, place as defined in this permit, and time of sampling or measurements;
 - b. The date(s) analyses were performed;
 - c. The company or entity that performed the analyses;
 - d. The analytical techniques or methods used;
 - e. The results of the analyses; and
 - f. The operating conditions existing at the time of sampling or measurement.
- 4.1.2. **Minor Source of Hazardous Air Pollutants (HAP).** HAP emissions from the facility shall be less than 10 tons/year of any single HAP or 25 tons/year of any combination of HAPs. Compliance with this Section shall ensure that the facility is a minor HAP source.
- 4.1.3. **Operation and Maintenance of Air Pollution Control Equipment.** The permittee shall, to the extent practicable, install, maintain, and operate all pollution control equipment listed in Section 1.0 and associated monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions, or comply with any more stringent limits set forth in this permit or as set forth by any State rule, Federal regulation, or alternative control plan approved by the Secretary.

[45CSR§13-5.11.]

- 4.1.4. **Record of Malfunctions of Air Pollution Control Equipment.** For all air pollution control equipment listed in Section 1.0, the permittee shall maintain records of the occurrence and duration of any malfunction or operational shutdown of the air pollution control equipment during which excess emissions occur. For each such case, the following information shall be recorded:
 - a. The equipment involved.
 - b. Steps taken to minimize emissions during the event.
 - c. The duration of the event.
 - d. The estimated increase in emissions during the event.

For each such case associated with an equipment malfunction, the additional information shall also be recorded:

- e. The cause of the malfunction.
- f. Steps taken to correct the malfunction.
- g. Any changes or modifications to equipment or procedures that would help prevent future recurrences of the malfunction.

5.0. Source-Specific Requirements (Engine, CE-01)

5.1. Limitations and Standards

5.1.1. Maximum emissions from the 500 hp natural gas fired reciprocating engine equipped with NSCR, Caterpillar G398NA (1E) shall not exceed the following limits:

Pollutant	Maximum Hourly Emissions (lb/hr)	Maximum Annual Emissions (ton/year)
Nitrogen Oxides	2.24	9.81
Carbon Monoxide	4.23	18.52
Volatile Organic Compounds	0.13	0.56
Formaldehyde	0.09	0.39

5.1.2. Requirements for Use of Catalytic Reduction Devices

- a. Rich-burn natural gas compressor engines equipped with non-selective catalytic reduction (NSCR) air pollution control devices shall be fitted with a closed-loop, automatic air/fuel ratio controller to ensure emissions of regulated pollutants do not exceed the potential to emit for any engine/NSCR combination under varying load. The closed-loop, automatic air/fuel ratio controller shall control a fuel metering valve to deliver additional fuel when required to ensure a fuel-rich mixture and a resultant exhaust oxygen content of less than or equal to 0.5%. The automatic air/fuel ratio controller shall also incorporate dual-point exhaust gas temperature and oxygen sensors which provide temperature and exhaust oxygen content differential feedback. Such controls shall ensure proper and efficient operation of the engine and NSCR air pollution control device;
- b. The automatic air/fuel ratio controller or closed-loop automatic feedback controller shall provide a warning or indication to the operator and/or be interlocked with the engine ignition system to cease engine operation in case of a masking, poisoning or overrich air/fuel ratio situation which results in performance degradation or failure of the catalyst element; and
- c. No person shall knowingly:
 - 1. Remove or render inoperative any air pollution or auxiliary air pollution control device installed subject to the requirements of this permit;
 - 2. Install any part or component when the principal effect of the part or component is to bypass, defeat or render inoperative any air pollution control device or auxiliary air pollution control device installed subject to the requirements of this permit; or
 - 3. Cause or allow engine exhaust gases to bypass any catalytic reduction device.

5.2. Monitoring Requirements

5.2.1. Catalytic Oxidizer Control Devices

- a. The permittee shall regularly inspect, properly maintain and/or replace catalytic reduction devices and auxiliary air pollution control devices to ensure functional and effective operation of the engine's physical and operational design. The permittee shall ensure proper operation, maintenance and performance of catalytic reduction devices and auxiliary air pollution control devices by:
 - 1. Maintaining proper operation of the automatic air/fuel ratio controller or automatic feedback controller.

2. Following operating and maintenance recommendations of the catalyst element manufacturer.

5.3. Testing Requirements

5.3.1. See Facility-Wide Testing Requirements Section 3.3.

5.4. Recordkeeping Requirements

5.4.1. To demonstrate compliance with section 5.1.2. the permittee shall maintain records of all catalytic reduction device maintenance. Said records shall be maintained on site or in a readily accessible off-site location maintained by the permittee for a period of five (5) years. Said records shall be readily available to the Director of the Division of Air Quality or his/her duly authorized representative for expeditious inspection and review. Any records submitted to the agency pursuant to a requirement of this permit or upon request by the Director shall be certified by a responsible official.

5.5. Reporting Requirements

5.5.1. See Facility-Wide Reporting Requirements Section 3.5.



6.0. Source-Specific Requirements (Reboiler, RBV-01)

6.1. Limitations and Standards

- 6.1.1. Maximum Design Heat Input. The maximum design heat input for the Reboiler (RBV-01) shall not exceed 0.20 MMBTU/hr.
- 6.1.2. Maximum emissions from the TEG Reboiler (6E) shall not exceed the following limits:

Pollutant	Maximum Hourly Emissions (lb/hr)	Maximum Annual Emissions (ton/year)	
Nitrogen Oxides	0.02	0.09	
Carbon Monoxide	0.02	0.07	

6.1.3. No person shall cause, suffer, allow or permit emission of smoke and/or particulate matter into the open air from any fuel burning unit which is greater than ten (10) percent opacity based on a sixminute block average.

[45CSR§2-3.1.]

6.2. Monitoring Requirements

6.2.1. At such reasonable times as the Director may designate, the permittee shall conduct Method 9 emission observations for the purpose of demonstrating compliance with 6.1.3. Method 9 shall be conducted in accordance with 40 CFR 60 Appendix A.

6.3. Testing Requirements

6.3.1. Compliance with the visible emission requirements of section 6.1.3. shall be determined in accordance with 40 CFR 60, Appendix A, Method 9 or by using measurements from continuous opacity monitoring systems approved by the Director. The Director may require the installation, calibration, maintenance and operation of continuous opacity monitoring systems and may establish policies for the evaluation of continuous opacity monitoring results and the determination of compliance with the visible emission requirements of section 6.1.3. Continuous opacity monitors shall not be required on fuel burning units which employ wet scrubbing systems for emission control.

6.4. Recordkeeping Requirements

6.4.1. The permittee shall maintain records of all monitoring data required by Section 6.2.1 documenting the date and time of each visible emission check, the emission point or equipment/source identification number, the name or means of identification of the observer, the results of the check(s), whether the visible emissions are normal for the process, and, if applicable, all corrective measures taken or planned. The permittee shall also record the general weather conditions (i.e. sunny, approximately 80°F, 6 - 10 mph NE wind) during the visual emission check(s). Should a visible emission observation be required to be performed per the requirements specified in Method 9, the data records of each observation shall be maintained per the requirements of Method 9.

6.5. Reporting Requirements

6.5.1. Any deviation(s) from the allowable visible emission requirement for any emission source discovered during observations using 40CFR Part 60, Appendix A, Method 9 or 22 shall be reported in writing to the Director of the Division of Air Quality as soon as practicable, but in any

case within ten (10) calendar days of the occurrence and shall include at least the following information: the results of the visible determination of opacity of emissions, the cause or suspected cause of the violation(s), and any corrective measures taken or planned.



7.0. Source-Specific Hazardous Air Pollutant Requirements (Natural Gas Dehydration Unit (3E))

7.1. Limitations and Standards

- 7.1.1. Maximum Throughput Limitation. The maximum wet natural gas throughput to the glycol dehydration unit/still column shall not exceed 5.0 million standard cubic feet per day (mmscfd). Compliance with the Maximum Throughput Limitation shall be determined using a twelve-month rolling total. A twelve-month rolling total shall mean the sum of the monthly throughput at any given time during the previous twelve consecutive calendar months.
- 7.1.2. Maximum emissions from the TEG dehydration unit flash tank (4E) shall not exceed the following limits:

Pollutant	Maximum Hourly Emissions (lb/hr)	Maximum Annual Emissions (ton/year)
Volatile Organic Compounds	8.78	38.44
n-Hexane	0.23	1.0
Benzene	0.03	0.12
Toluene	0.03	0.13
Xylenes	0.03	0.13

7.1.3. Maximum emissions from the TEG dehydration unit still column (5E) shall not exceed the following limits:

Pollutant	Maximum Hourly Emissions (lb/hr)	Maximum Annual Emissions (ton/year)
Volatile Organic Compounds	2.34	10.25
n-Hexane	0.06	0.27
Benzene	0.17	0.75
Toluene	0.28	1.21
Ethylbenzene	0.03	0.15
Xylenes	0.61	2.66

- 7.1.4. For purposes of determining potential HAP emissions at production-related facilities, the methods specified in 40 CFR 63, Subpart HH (i.e. excluding compressor engines from HAP PTE) shall be used.
- 7.1.5. The glycol dehydration reboiler (2E) shall be designed and operated in accordance with the following:
 - a. The still vent vapors shall be routed to the atmosphere and 50% of the flash tank offgas shall be used as fuel in the reboiler (2E).

- b. The reboiler shall only be fired with vapors from the flash tank, and natural gas may be used as supplemental fuel.
- 7.1.6. Any source that determines it is not a major source but has actual emissions of 5 tons per year or more of a single HAP, or 12.5 tons per year or more of a combination of HAP (i.e., 50 percent of the major source thresholds), shall update its major source determination within 1 year of the prior determination or October 15, 2012, whichever is later, and each year thereafter, using gas composition data measured during the preceding 12 months.

[40CFR§63.760(c)]

- 7.1.7. The permittee is exempt from the requirements of 40CFR§63.760(b)(2) if the criteria below is met, except that the records of the determination of these criteria must be maintained as required in 40CFR§63.774(d)(1).
 - a. The actual average emissions of benzene from the glycol dehydration unit process vent to the atmosphere are less than 0.90 megagram per year (1 ton/yr), as determined by the procedures specified in §63.772(b)(2) of this subpart.

[40CFR§63.764(e)]

7.2. Monitoring Requirements

- 7.2.1. The permittee shall monitor the throughput of wet natural gas fed to the dehydration system on a monthly basis for the glycol dehydration unit (3E).
- 7.2.2. In order to demonstrate compliance with the area source status, claimed within sections 7.1.2 and 7.1.3, as well as the benzene exemption provided under section 7.1.6, the following parameters shall be measured at least once quarterly, with the exception of natural gas flowrate annual daily average, natural gas flowrate maximum design capacity, and wet gas composition, in order to define annual average values or, if monitoring is not practical, some parameters may be assigned default values as listed below.
 - a. Natural Gas Flowrate
 - i. Operating hours per quarter
 - ii. Quarterly throughput (MMscf/quarter)
 - iii. Annual daily average (MMscf/day), and
 - iv. Maximum design capacity (MMscf/day)
 - b. Absorber temperature and pressure
 - c. Lean glycol circulation rate
 - d. Glycol pump type and maximum design capacity (gpm)
 - e. Flash tank temperature and pressure, if applicable
 - f. Stripping Gas flow rate, if applicable
 - g. Wet gas composition (upstream of the absorber dehydration column) sampled in accordance with GPA method 2166 and analyzed consistent with GPA extended method 2286 as well as the procedures presented in the GRI-GLYCalcTM Technical Reference User Manual and Handbook V4
 - h. Wet gas water content (lbs H₂O/MMscf)
 - i. Dry gas water content (lbs H₂O/MMscf) at a point directly after exiting the dehydration column and before any additional separation points

The following operating parameter(s) may be assigned default values when using GRI-GLYCalc:

- a. Dry gas water content can be assumed to be equivalent to pipeline quality at 7 lb H_2O / MM_{SCF}
- b. Wet gas water content can be assumed to be saturated

- Lean glycol water content if not directly measured may use the default value of 1.5 % water as established by GRI
- d. Lean glycol circulation rate may be estimated using the TEG recirculation ratio of 3 gal TEG / lb H₂O removed.

Note: If you are measuring and using actual wet or dry gas water content, then you should also measure the glycol recirculation rate rather than using the default TEG recirculation ratio. [45CSR§13-5.11, §63.772(b)(2)(i)]

7.3. Testing Requirements

7.3.1. The permittee shall determine the composition of the wet natural gas by sampling in accordance with GPA Method 2166 and analyzing according to extended GPA Method 2286 analysis as specified in the GRI-GLYCalcTM V4 Technical Reference User Manual and Handbook. As specified in the handbook, the permittee shall sample the wet gas stream at a location prior to the glycol dehydration contactor column, but after any type of separation device, in accordance with GPA method 2166. The permittee may utilize other equivalent methods provided they are approved in advance by DAQ as part of a testing protocol. If alternative methods are proposed, a test protocol shall be submitted for approval no later than 60 days before the scheduled test date. The initial compliance test must be conducted within 180 days of permit issuance or within 180 days of startup of the glycol dehydration unit, whichever is later.

Note: The DAQ defines a representative wet gas sample to be one that is characteristic of the average gas composition dehydrated throughout a calendar year. If an isolated sample is not indicative of the annual average composition, the permittee may opt to produce a weighted average based on throughput between multiple sampling events, which can be used to define a more representative average annual gas composition profile.

[45CSR§13-5.11]

- 7.3.2. The following testing and compliance provisions of Part 63 Subpart HH National Emission Standards for Hazardous Air Pollutants From Oil and Natural Gas Production Facilities are applicable to the facility:
 - § 63.772 Test methods, compliance procedures, and compliance demonstrations.
 - (b) Determination of glycol dehydration unit flowrate, benzene emissions, or BTEX emissions. The procedures of this paragraph shall be used by an owner or operator to determine glycol dehydration unit natural gas flowrate, benzene emissions, or BTEX emissions.
 - (2) The determination of actual average benzene emissions or BTEX emissions from a glycol dehydration unit shall be made using the procedures of paragraph (b)(2)(i) of this requirement. Emissions shall be determined either uncontrolled, or with federally enforceable controls in place.
 - (i) The owner or operator shall determine actual average benzene emissions using the model GRI-GLYCalcTM, Version 3.0 or higher, and the procedures presented in the associated GRI-GLYCalcTM Technical Reference Manual. Inputs to the model shall be representative of actual operating conditions of the glycol dehydration unit and may be determined using the procedures documented in Gas Research Institute (GRI) report entitled "Atmospheric Rich/Lean Method for Determining Glycol Dehydrator Emissions " (GRI-95/0368.1).

 [§63.772(b)(2)(i)]

7.4. Recordkeeping Requirements

- 7.4.1. The permittee shall maintain a record of the wet natural gas throughput through the glycol dehydration unit to demonstrate compliance with section 7.1.1. of this permit. Said records shall be maintained for a period of five (5) years on site or in a readily accessible off-site location maintained by the permittee. Said records shall be readily available to the Director of the Division of Air Quality or his/her duly authorized representative for expeditious inspection and review. Any records submitted to the agency pursuant to a requirement of this permit or upon request by the Director shall be certified by a responsible official.
- 7.4.2. For the purpose of documenting compliance with the emission limitations, HAP major source thresholds, as well as the benzene exemption, the permittee shall maintain records of all monitoring data, wet gas sampling, and annual GRI-GLYCalcTM emission estimates. Said records shall be maintained for a period of five (5) years on site or in a readily accessible off-site location maintained by the permittee. Said records shall be readily available to the Director of the Division of Air Quality or his/her duly authorized representative for expeditious inspection and review. Any records submitted to the agency pursuant to a requirement of this permit or upon request by the Director shall be certified by a responsible official.

[45CSR§13-5.11]

8.0. Source-Specific Requirements (Storage Tank and Truck Loading, T-01 and TLO)

8.1. Limitations and Standards

- 8.1.1. The maximum quantity of produced water that shall be loaded (TLO) shall not exceed 106,000 gallons per year. Compliance with the Maximum Throughput Limitation shall be determined using a twelve-month rolling total. A twelve-month rolling total shall mean the sum of the monthly throughput at any given time during the previous twelve consecutive calendar months.
- 8.1.2. Maximum Design Volume. The maximum design volume of storage tank T-01 shall not exceed 210 bbl.
- 8.1.3. The Produced Water Truck Loading (TLO) shall be operated in accordance with the plans and specifications filed in Permit Application R13-3090A or in a manner that would reduce emissions.

8.2. Recordkeeping Requirements

- 8.2.1. For the purpose of demonstrating compliance with section 8.1.1., the permittee shall maintain monthly records of the amount of produced water loaded into tank trucks (TLO).
- 8.2.2. All records required under Section 8.2 shall be maintained on site or in a readily accessible off-site location maintained by the permittee for a period of five (5) years. Said records shall be readily available to the Director of the Division of Air Quality or his/her duly authorized representative for expeditious inspection and review. Any records submitted to the agency pursuant to a requirement of this permit or upon request by the Director shall be certified by a responsible official.

9.0. Source-Specific Requirements (40CFR63 Subpart ZZZZ Requirements, CE-01)

Any changes to 40 CFR Part 63, Subpart ZZZZ shall supersede the 40 CFR Part 63, Subpart ZZZZ requirements contained in this permit.

9.1. Limitations and Standards

9.1.1. The permittee must comply with the applicable operating limitations in this section no later than October 19, 2013.

[40 C.F.R. § 63.6595(a)]

9.1.2. The permittee shall comply with the following requirements:

For each	You must meet the following requirement, except during periods of startup
Non-emergency, non-black start 4SRB stationary RICE ≤500 HP	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first;
	b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first, and replace as necessary; and
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.

[40 C.F.R. §§ 63.6603 and 63.6640 and Table 2d]

- 9.1.3. The permittee shall comply with the following requirements:
 - a. The permittee must be in compliance with the operating limitations in this subpart that apply to the permittee at all times.
 - b. At all times the permittee must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the permittee to make any further efforts to reduce emissions if required levels have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [40 C.F.R. § 63.6605]

9.2. Monitoring, Installation, Collection, Operation, and Maintenance Requirements

9.2.1. The permittee must operate and maintain the stationary RICE and after-treatment control device according to the manufacturer's emission-related written instructions or develop your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.

[40 C.F.R. § 63.6625(e)]

9.2.2. The permittee must minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to

exceed 30 minutes, after which time the emission standards applicable to all times other than startup in Tables 1a, 2a, 2c, and 2d to this subpart apply.

[40 C.F.R. § 63.6625(h)]

9.3 Continuous Compliance

9.3.1. The permittee must be in compliance with the emission limitations, operating limitations, and other requirements in this subpart that apply at all times.

[40 C.F.R. § 63.6605(a)]

9.3.2. At all times, the permittee must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

[40 C.F.R. § 63.6605(b)]

- 9.3.3. The permittee must demonstrate continuous compliance with each emission limitation, operating limitation, and other requirements in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d to this subpart that apply according to methods specified in Table 6 to this subpart. [40 C.F.R. § 63.6640(a)]
- 9.3.4. The permittee must report each instance in which you did not meet each emission limitation or operating limitation in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d to this subpart that apply. These instances are deviations from the emission and operating limitations in this subpart. These deviations must be reported according to the requirements in § 63.6650. If you change your catalyst, you must reestablish the values of the operating parameters measured during the initial performance test. When you reestablish the values of your operating parameters, you must also conduct a performance test to demonstrate that you are meeting the required emission limitation applicable to your stationary RICE. [40 C.F.R. § 63.6640(b)]

9.4. Recordkeeping Requirements

- 9.4.1. The permittee must comply with the emission and operating limitations, you must keep the records described in paragraphs (a)(1) through (a)(5), (b)(1) through (b)(3) of this section.
 - (a)(1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted, according to the requirement in §63.10(b)(2)(xiv).
 - (a)(2) Records of the occurrence and duration of each malfunction of operation (i.e., process equipment) or the air pollution control and monitoring equipment.
 - (a)(3) Records of performance tests and performance evaluations as required in §63.10(b)(2)(viii).
 - (a)(4) Records of all required maintenance performed on the air pollution control and monitoring equipment.
 - (a)(5) Records of actions taken during periods of malfunction to minimize emissions in accordance with § 63.6605(b), including corrective actions to restore malfunctioning

- process and air pollution control and monitoring equipment to its normal or usual manner of operation.
- (b) For each CEMS or CPMS, you must keep the records listed in paragraphs (b)(1) through (3) of this section.
- (b)(1) Records described in § 63.10(b)(2)(vi) through (xi).
- (b)(2) Previous (i.e., superseded) versions of the performance evaluation plan as required in § 63.8(d)(3).
- (b)(3) Requests for alternatives to the relative accuracy test for CEMS or CPMS as required in § 63.8(f)(6)(i), if applicable.

[40 C.F.R. § 63.6655(a)(b)]

- 9.4.2. The permittee must keep the records required in Table 6 of this subpart to show continuous compliance with each emission or operating limitation that applies to you. [40 C.F.R. § 63.6655(d)]
- 9.4.3. The permittee must keep records of the maintenance conducted on the stationary RICE in order to demonstrate that you operated and maintained the stationary RICE and after-treatment control device according to your own maintenance plan.

 [40 C.F.R. § 63.6655(e)]

10.0. Source-Specific Requirements (Pigging Operations)

10.1. Limitations and Standards

10.1.1. The number of pigging events shall each not exceed 52 events per year. However, in lieu of the event limits given in this section, if the permittee can accurately determine the quantity of gas released during each event, the permittee may show compliance by limiting total gas released to less than 160 mscf/year. Compliance shall be determined using a twelve-month rolling total. A twelve-month rolling total shall mean the sum of the blowdown events at any given time during the previous twelve consecutive calendar months.

10.2. Recordkeeping Requirements

10.2.1. To demonstrate compliance with permit conditions 10.1.1., the permittee shall maintain a record of the blowdown events and estimated volume per event (scf) on a monthly and rolling twelve-month total.

10.3. Reporting Requirements

10.3.1. Any exceedance of permit conditions 10.1.1. must be reported in writing to the Director of the DAQ as soon as practicable, but within ten (10) calendar days, of the occurrence and shall include, at a minimum, the following information: the date of the exceedance, the estimate of VOC emissions released to the atmosphere as a result of the exceedance and any corrective measures taken or planned.

CERTIFICATION OF DATA ACCURACY

	I, the undersigned	ed, hereby certify that,	based on information and	l belief formed after reasonable
inquiry, all in	formation contained	in the attached		, representing the
period beginni	ing	and en	ding	, and any supporting
	docume	ents appended hereto, i	is true, accurate, and comp	olete.
Signature ¹ (please use blue ink)	Responsible Official or Author	rized Representative		Date
Name & Title (please print or type)	Name		Title	
Telephone No.			Fax No	

- This form shall be signed by a "Responsible Official." "Responsible Official" means one of the following:
 - a. For a corporation: The president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit and either:
 - (i) the facilities employ more than 250 persons or have a gross annual sales or expenditures exceeding \$25 million (in second quarter 1980 dollars), or
 - (ii) the delegation of authority to such representative is approved in advance by the Director;
 - b. For a partnership or sole proprietorship: a general partner or the proprietor, respectively;
 - c. For a municipality, State, Federal, or other public entity: either a principal executive officer or ranking elected official. For the purposes of this part, a principal executive officer of a Federal agency includes the chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., a Regional Administrator of U.S. EPA); or
 - d. The designated representative delegated with such authority and approved in advance by the Director.